

MARYLAND
MEDICAL JOURNAL,
BALTIMORE.

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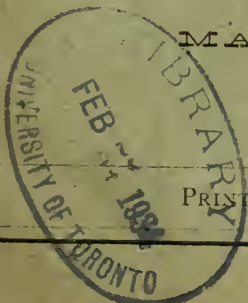
H. E. T. MANNING, M. D., T. A. ASHBY, M. D.


DECEMBER, 1877.

PUBLISHED MONTHLY BY
MANNING & ASHBY,
PROPRIETORS.

PRINTED BY J. H. FOSTER, BALTIMORE.

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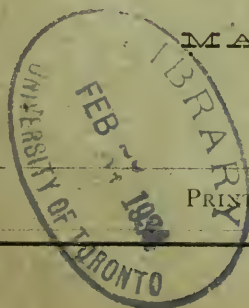
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MARYLAND MEDICAL JOURNAL,

MANNING & ASHBY, Editors and Publishers,
BALTIMORE, MD.

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MARYLAND MEDICAL JOURNAL.

VOL. II.

BALTIMORE, DECEMBER, 1877.

No. 2.

ORIGINAL PAPERS.

UREA, AND ITS EASY ESTIMATION.

BY D. I. MCKEW, M. D., OF BALTIMORE.

(Read before the Academy of Medicine, October 16, 1877.)

Urea has not ceased, since its discovery in 1772 by Rouelle the younger, to attract the attention of physiologists and pathologists. Its formula indicates a very large proportion (seven-fifteenths) of nitrogen as entering into its composition; and it constitutes in fact the chief form in which the nitrogen of waste is eliminated from our bodies; thus furnishing us according to Flint, with a "measure of nutritive force and physiological waste." Although we have to consider it only as found in the urine, it may be recovered from the lymph, chyle and blood as well as from the sweat. Bartels mentions cases in which the compensating excretion by the skin was so great that the whole face and beard of the patients were frosted with crystals of urea.

The amount of urea daily thrown off by the kidneys is peculiar to each individual, and varies with the many changes of life. It is also increased by nitrogenous food, by exercise and by copious potations of watery fluid, as well as by alkalies and common salt. Alcohol, thein and caffeine lessen its production. The question of the influence of muscular action upon the formation of urea has been recently investigated, in the person of the pedestrian Weston, by both Dr. Flint of this country and Dr. Pavy of England. The conclusions reached by these two observers are directly opposed to each other. Dr. Flint deduces, from his ex-

periments upon Weston, that "during the walk the nitrogen was in direct proportion to the amount of exercise; and, what was still more striking, the excess of nitrogen eliminated over the food taken almost exactly corresponded with a calculation of the nitrogen of the muscular tissue wasted, as estimated from the loss of weight of the body;" and that "it is impossible to come to any other conclusion than that excessive and prolonged muscular exertion increases enormously the excretion of nitrogen, and that the excess of nitrogen discharged is due to an increased dissimilation of the muscular substance."

These deductions are strongly opposed by Pavy, who also availed himself of Weston's walks to study this question. He points out important errors in Flint's experiments, such as the estimation of the nitrogen in the feces as part of the excreted nitrogen of tissue metamorphosis, while the patient was taking large amounts of nitrogenous food; and also calls attention to the fact that the increase of urea found by Flint was in reality, not absolute, but only relative, and that this excess was caused principally by the diminution of the ingested nitrogen during the five days walk of Weston. Thus:

	Nitrogen ingested. GRAINS.	N. in Urine. GRAINS.	N. in Urine and Feces GRAINS.
5 days before walk,	339.46	293.18	315.09
5 " of "	234.76	337.01	361.52
5 " after "	440.93	339.17	373.15

It will be seen that the *absolute* variation in the urea during the walk was by no means such as to justify Flint in the use of the epithet "enormous". Pavy concludes from his researches that, although the elimination of urinary nitrogen is increased by muscular exercise, yet the increase is not nearly sufficient to give countenance to the proposition that the source of the power manifested in muscular action is due to the oxydation of muscular tissue. He also adds that the results show that nitrogenous matter is consumed in the system in larger quantity during exercise than during rest, and we may take it therefore that its supply should be made to coincide. In fine, that the increased amount of urea formed during exercise is not due to muscular metamorphosis only, but to increased disintegration of nitrogenous matter

throughout the system at large. The influence of nitrogenized food in producing increased formation of urea can, it is reasonable to suppose, only be brought about after the vitalization of such pabulum and its subsequent death or degeneration either as molecule, globule or formed tissue. The elements of the blood are being continually renovated and each act of digestion is followed by the production of a new quantity of globules, particularly white ones, which are rapidly destroyed. This new formation is found to precede the increase of urea which occurs after digestion, and this increase lasts a little time after their disappearance; and to the destruction of these globules is probably due the elevation of the amount of urea excreted. During prolonged fasting the globules are formed at the expense of the tissues themselves and their destruction will explain the persistence of urea in the absence of nutrition.

Alluding to the difficulty of fixing a normal standard for urea, Bartels says: "We possess no measure of what the normal amount should be." He considers 0.8 per cent. as far from expressing the lowest possible minimum consistent with health; and has never found, even when fluids have been abstained from to a point of unendurable thirst, more than 6.10 per cent.

Franqué, quoted by Vogel, gives the following amounts as the daily excretion of a healthy man;

On animal food	51—92 grammes	
“ mixed food.....	36—38	“
“ vegetable food	24—28	“
“ non-nitrogenous food	16—	“

Robin estimates the average daily amount of urea at from 1.5 to 2.3 per cent. Lionel Beale states that a healthy man weighing about 140 pounds ought to excrete during the twenty-four hours nearly 500 grains of urea.

The share taken by the kidneys in the formation of urea has been variously estimated at different periods by writers on the subject; though at present it is generally conceded that the views of Bowman are correct, which restricted the function of the kidney to the simple separation from the blood of the elsewhere formed urea &c. The blood of the renal artery contains twice as

much urea as the blood of the renal vein; and the chyle and lymph have been found by Wurtz to contain even more than the blood.

While the kidneys are denied to be the source of urea formation, physiologists do not agree as to its actual place and mode of origin, whether its formation takes place throughout the system at large, as molecule after molecule of our tissues yields up its life, or, whether there be some one organ more specially charged with the function of its formation. Some physiologists, as Hirtz, regard urea as an ultimate product of the oxydation of albuminoid matters, the scoria of animal combustion, and representing by its quantity the intensity of destruction. Robin and Bouchardat seem not to regard urea as a product of oxydation, but rather of a splitting up or "dédoublement" of the nitrogenous matters; yielding on the one hand inosite, cholesterine &c., and on the other hand substances rich in nitrogen, which, after successive steps of oxydation, are found as creatine, xanthine, sarcine, uric acid &c.

The fact that urea may be found in the liver has long been known; and the opinion seems to be gaining ground among physiologists that this gland is the principal source of urea formation. This belief has recently been reasserted by Dr Brouardel, who adduces many physiological facts in its support. Among other authorities on this subject, he quotes *Meissner* as entertaining the opinion that a "large portion of the albumen ingested, after having served as hæmoglobin is used up in the liver and separated into urea and non-azotized substances. *Guthgens* states that "the production of sugar and of urea in diabetes result alike in the "dédoublement" of albuminoid matters, and that this relation exists not only in diabetes, but also in health. *Cyon* concludes, from the much greater quantity of urea found in the blood after its passage through the liver than before, that urea is formed in the liver. *Sigmund* in 1853 in demonstrating the influence of section of the pneumogastric, showed that the operation is followed by hyperæmia of the liver and an increase of from two to three grammes in the amount of urea secreted in twenty-four hours.

After relating many cases of diseased conditions of the hepatic structure and functions in which the amount of urea formed and secreted seems to bear a constant relation to the condition of the liver, and which are full of interest, Dr. Brouardel draws the following conclusions :

The researches of physiologists, Heynsius, Stokvis, Fuhrer, Ludwig, Meissner and Cyon tend to show that the formation of urea takes place in the liver.

The observations of pathologists show that under the influence of hepatic lesions the urea varies according to determinable laws.

In grave icterus urea diminishes and may disappear from the urine.

In the icterus due to phosphorus, occurring in man, or produced in animals, urea diminishes considerably, but after having undergone temporary increase after each ingestion of the poison.

In certain forms of pseudo-malignant icterus the variations of urea present at first the same characters as in malignant icterus (diminution, disappearance of urea, anuria); but the day on which a urinary crisis occurs, with considerable elimination of urea, announces convalescence. Frequently the volume of the liver from being retracted, increases at this period.

In simple jaundice the quantity of urea eliminated is not diminished. The urea may be considerable in amount in the beginning; but this increase does not last beyond the very commencement of the disease. The abundant secretion of urea permits favorable prognosis.

In suppurative hepatitis urea increases in the beginning, as announced by Parkes, (although verification of this is needed.) It is diminished when the abscess has destroyed a great portion of the liver, even though the lesion be accompanied by fever.

In biliary lithiasis causing obliteration of the choledoch duct and atrophy of the hepatic lobules, urea diminishes in quantity. This diminution seems more notable during the crisis of hepatic cholic and also, especially according to Regnard, in hepatic intermittent fever.

In atrophic or hypertrophic cirrhosis the quantity of urea eliminated is very small, even when the patient is taking nourishment freely.

In diseases of the heart, the development of cardiac liver brings, about considerable decrease in the secretion of urea. The variations of this amount, under the influence of rest and treatment, may serve to establish the prognosis of the disease..

In fatty degeneration of the liver occurring in phthisis and supuration of bone, the urea excreted is marked by its small quantity.

In chronic affections of the liver (cancer, hydatid cysts,) destruction of a considerable portion of the hepatic substance causes a corresponding decrease in the amount of urea secreted.

In congestion of the liver the increased activity of the hepatic circulation is manifested in the quantity of urea eliminated.

In lead colic the liver retracts and the urea diminishes ; as soon as the colic is past the liver returns to its normal size and the urea increases.

In temporary Glycosuria urea increases during the existence of this state, or at the moment of its disappearance. In diabetes the quantity of urea is sometimes greater than in any other disease. Does not so remarkable a resemblance in the variations of these two phenomena authorize the inquiry as to the community of their origin ?

En résumé we believe we have established that in diseases of the liver the quantity of urea secreted and eliminated in twenty-four hours depends on two principal influences :

1. The integrity or alteration of the hepatic cells. 2. The greater or less activity of the hepatic circulation.

Hence results the deduction that, the kidneys being healthy, the quantity of urea eliminated by the urine may be used in the diagnosis and prognosis of diseases of the liver.

The failure of the kidneys to do their work of blood depuration, and the consequent retention and accumulation of urea have been long regarded as the source of those serious accidents classed under the head of uræmia. How far urea *alone* is to be looked upon as the noxa in these cases has not been definitely ascertained. Our imperfect knowledge of the intermediate steps in the metamorphosis of tissue and of the action on the economy of the products of these singly, together with the great difficulty

of their quantitative appreciation have hitherto very much embarrassed investigation. Cases of uræmic poisoning have been detailed in which no urea could be found in the blood; and very heavy saturation of the blood with urea is frequently unaccompanied by symptoms of poisoning. Owen Rees relates a case of long continued anuria in which he found more urea in the blood than he had ever known in the urine of Bright's disease. In this case the patient retained full possession of his faculties to the last. Behrends relates a case of absolute anuria lasting five days (122 hours) without the occurrence of uræmic symptoms. Most of us can recall instances in our own experience, especially after scarlet fever, where, with almost entire suppression of urine, there have been no uræmic accidents.

Notwithstanding these facts, the frequent recurrence of the same symptoms, in cases in which blood depuration is interfered with, will justify us in attributing the phenomena to the presence in the circulating fluid of *some noxious substance*, whether urea, or some one or other of the substances preceding it in the metamorphosis of tissue. The theory of Frerichs which attributes the symptoms of uræmia to carbonate of ammonia, formed in the blood from urea by some unknown, though suspected ferment, has fallen into disfavor; and that of Traube as to the influence of cerebral œdema is open to too many objections. Voit says with regard to the influence of urea "symptoms of disease originate whenever any substance, which does not belong to the composition of the economy, accumulates in any quantity within the body and is not eliminated from it. In suppression of the urinary excretion it is not one single element, like urea or uric acid, kreatin or kreatinin, the extractives or urochrom which does the harm; it is the mass together. Under similar circumstances some extraneous salt, like carbonate of ammonia or glauber's salt, etc. would produce the same symptoms."

In cases in which we have to fear the supervention of uræmic accidents we should however, consider it our duty to frequently examine the urine with a view to ascertaining its nitrogenous contents; and any very low percentage should awake our

anxiety and cause our best efforts to be directed to a relief of this condition. Unfortunately, in very many cases no warning is given of the existence of this state of affairs, and blood poisoning, if at all suspected, is only then recognized when too late for remedy. I do not doubt that many cases of sudden death occurring in our midst, of persons who up to the fatal seizure were actively engaged in the various pursuits of life and freely enjoying its pleasures, are due to uræmia which an examination of the urine during life might have detected and possibly averted.

For the quantitative determination of urea in urine many methods have been proposed; the most popular and reliable of which was, until recently, the "Titir" method of Liebig. This however, requires so much attention, occupies so much time, and demands such familiarity with chemical manipulation and procedures as to place it entirely out of use for the busy man of practice. The necessity for a simple, but equally reliable method having been recognized, very many modes were suggested from time to time, most of which however, were impractical, and none sufficiently simple for the needs of practitioners. Our offices are not adapted for the performance of nice operations in analysis; and accurate balances, hydrometric apparatus and the like paraphernalia are not comprised in our office furniture. For this reason the apparatus of Davy and its various modifications, as well as those of Bunsen, Millon, Boymond and Piffard have never come into general use. Nor do I think that the plan proposed by Dr. Fowler of New York, the apparatus for which I here exhibit, will be found convenient, requiring as it does, large quantities of urine, three determinations of specific gravity and considerable time. It is however, very accurate. The most simple, reliable, the most useful of all the plans hitherto proposed for the estimation of urea is that of Drs. Russel and West of London, which I will now show in operation.

The process is simply the decomposition of urea, by a solution of hypobromite of sodium, into carbonic acid, water and nitrogen.

This nitrogen is collected in a receiver graduated for the purpose, and showing at a glance the percentage of urea corresponding to the volume of the liberated nitrogen.

The whole operation can be performed in ten minutes and without any special knowledge of chemistry or its manipulative requirements. The only objection to the use of this plan is in the offensive and irritating character of the fumes of Bromine which is used in the formation of the decomposing solution. This may easily be avoided by having the mixture made by an apothecary. To those who would prefer to make it themselves I would suggest that it is best to make it in the open air: and that care should be taken not to inhale the vapor. By holding the bottle containing Bromine at a level below the face, its great specific gravity causes the vapor to fall away from the respiratory organs. The solution of caustic soda is also very injurious to paint and to all fabrics; and parts of the apparatus should not be laid when wet where the paint or covering of tables might be destroyed. For further information on this subject the *Journal of the Chemical Society*, for August, 1874, may be consulted. This simple mode of urea determination is wonderfully accurate. I had, in order to test its accuracy, some percentage solutions of urea made by a chemist, and in no case did the record of the apparatus vary one-tenth of one per cent. from the actual contents of the tested solutions. Higher proof yet of its value is furnished by the fact that Dr. Pavy used this plan to correct the results of Liebig's method in his studies on Weston.

Prof. Emerson Reynolds, of the University of Dublin, has recently yet further simplified the process. In a letter received recently from him he informs me that the process will be published in the *Journal of the Royal Society of Dublin* for this month with an illustrative woodcut. By the plan of Prof. Reynolds an ordinary minim measure is the only apparatus required, and if its accuracy should be equal to its simplicity this will certainly very soon supersede all other plans for the estimation of urea in urine. In all determinations of urea, it is necessary to take an average specimen of the whole amount of urine passed during the twenty-

four hours, as the urea contents of the urine vary very greatly both as to the period of the day when passed and the many other circumstances of our daily life. The urine passed on rising in the morning generally contains absolutely less urea than that excreted after exercise; and the amount of urea is rendered relatively lower by the larger amount of water in the urine secreted after large indulgence in aqueous fluids. It is also desirable that, when possible, one days urine should be compared with that of preceding and subsequent days in order to avoid sources of error. Let us hope that, since the estimation of the amount of urea has been made so easy as to be readily and without any trouble performed by the workmen of our profession, who are hourly brought into contact with the phenomena of disease in the human subject, more accurate and positive knowledge may be gained of the relations of this substance to disease than we could expect from the labors of chemists and physiologists in their laboratories, unaided by clinical observation.



REMARKS ON THE NATURE AND TREATMENT OF CONVERGENT STRABISMUS.

BY SAMUEL THEOBALD, M. D., SURGEON TO THE BALTIMORE CHARITY
EYE AND EAR DISPENSARY; OPHTHALMIC AND AURAL SURGEON
TO ST. VINCENT'S HOSPITAL, BALTIMORE.

(Read before the Medical and Surgical Society of Baltimore, October 25th, 1877.)

There are but few affections which come to the notice of medical or surgical practitioners, the nature, modes of origin, and proper treatment of which are more satisfactorily understood than are those of convergent strabismus; and yet, I think I may safely say, there are as few regarding which there exists so much misconception. Nor is this misconception, as might be supposed, wholly confined to the non-medical public. Indeed, it is occasionally encountered even in direction where we should least expect it, and where its existence would seem to be least excusable.

If I mistake not, I have yet to meet with a case of "cross eyes" in which an explanation of its origin was not, with entire confidence, vouchsafed by the patient himself or those in charge of him; yet I fail to recall more than one or two instances in which this explanation even approached the truth. A bonnet or hat worn in some unusual manner; a green shade which once on a time served to protect one eye during an attack of inflammation; a window, the light from which fell aslant the cradle of the patient when a baby; a problematical intestinal worm; a child with a like affection, from whom the patient caught the habit; these, and many others of similar import, are the explanations which are usually proffered with an astonishing amount of assurance, and which occasionally receive the endorsement of the family physician.

Again, in regard to the treatment, false notions are not less prevalent. One anxious parent feels herself justified in allowing her child to grow up with a disfiguring deformity, because, as she believes, the child was born so; another fears that the operation will injure the sight of the squinting eye; while a third has no fear for this eye, but concentrates all her anxiety upon the terrible risk to the other. A fourth has been assured that an operation will result in the squint flying to the other eye, or that both eyes are crossed and so nothing, of course, can be done; or, it may be, has been advised by the family practitioner, as I have known to be the case, to have nothing done, at present, as the child may quite likely out-grow it. For all such misconceptions there exists, in fact, very rarely the slightest foundation.

The origin of convergent strabismus is, as I have said, thoroughly well understood. In ninety-nine cases in a hundred *it is due to one of two causes*:—First, and in a far greater number of instances, to the existence of *hypermetropia*; second, to *paralysis of one, or rarely of both, of the external recti muscles*. These two forms of convergent strabismus, differing in their modes of origin, differ also in their behavior and in the treatment which they require, and should be carefully distinguished the one from the other. In the first form, *which almost always makes its appearance in childhood*, the squint is slowly developed, an intermittent

squint, occurring usually during accommodation for near objects, preceding the fixed habit; the deformity may be said never to disappear of itself; and the treatment, the success of which, if completely under the surgeon's control, is assured, consists in the tenotomy of one, or both, of the internal recti muscles, together with, in certain cases, the wearing of suitable convex glasses. In the second form, *which may occur at any age*, the squint is developed, without the premonitory stage of intermission, in a few days, or perhaps even in a few hours;* the deformity may possibly disappear of its own accord, provided the paralysis upon which it depends is relieved; the treatment indicated is usually other than operative; and, where tenotomy is required, the attainment of a perfect result is not always so completely under our control.

How convergent strabismus is produced, as a result of paralysis of the external rectus muscle, is obvious: The internal rectus, no longer opposed by the action of the paralyzed muscle, rotates the eye inwards, and a convergent squint is the effect; just as paralysis of the portio dura of the seventh nerve, upon one side, is accompanied by a dragging of the mouth, &c., to the opposite side. The connection between this condition and hypermetropia is not quite so apparent, but may be readily made manifest.

Hypermetropia, as is well known, is that condition of the eye in which, owing usually to an abnormally short antero-posterior axis, parallel rays of light—that is those coming from distant objects—are brought to a focus by the refractive media of the eye, when the accommodation is at rest, at a point *behind* the retina, and not upon it as should be the case. This result being incompatible with distinct vision, the accommodative apparatus is

* Besides the history of the development of the squint, which will usually lead to a correct diagnosis as to its paralytic or hypermetropic origin, we may in almost every case readily discover the existence of paralysis, if it be present, by covering the non-squinting eye, and directing the patient, without turning his head, to regard with the other some object, such as a finger or pencil, held at first in front of it, and then slowly moved to the side of the supposed paralyzed muscle. If paralysis be present, the eye will be unable to follow the object in this direction, or, at most, will be able to do so in a very imperfect and uncertain manner; and at the same time the secondary squint in the unaffected eye will be excessive. Again, the squint will be found to increase in extent when an effort is made to turn the eyes in the direction of the paralyzed muscle, whereas it may entirely disappear when they are turned in the opposite direction.

unconsciously brought into play, in order, by increasing the power of the lens, to advance the focal point to the plane of the retina. In the hypermetropic eye, therefore, accommodation takes place not only in near vision, with convergent optic axes, as is the case in the emmetropic or normally shaped eye, but in distant vision as well, with the axes practically parallel.

Now there exists between accommodation and convergence—which always bear a fixed relation to each other in the emmetrope, accommodation never occurring without a proportionate degree of convergence, and vice versa—such an interdependence, that it is only by a tedious effort, and even then but to a limited extent, that they can be separately called into action. When, therefore, in hypermetropia, in order to render vision distinct, accommodation occurs in distant vision, without convergence, or in near vision, in excess of convergence, a wearisome effort is required; to escape which the hypermetrope is constantly tempted *to converge as much as he accommodates*, which means, for him, *to squint*. That this result does not happen much more frequently, is due to the fact, that, at first, each yielding to this disposition is accompanied by diplopia, or double vision, a condition so annoying, that to the many it proves a Charybdis more intolerable than the Scylla from which they would escape.

In illustration, let us suppose a case of hypermetropia of one-twelfth, by which we mean that, the accommodation being latent, a convex lens of 12'' focal length is required, in order that parallel rays may be brought to a focus upon the retina. Under such circumstances, distinctness in distant vision is only obtained by an exercise of accommodation equal to that which the emmetrope would require for vision at 12''. But, according to the law of association which I have described, a *convergence* for 12'' should accompany this effort of accommodation. If this be suppressed, accommodative asthenopia is the common result; if not, convergent strabismus is the alternative. In near vision the conditions are not changed for the better. The subject of hypermetropia of one-twelfth, wishing to see distinctly at a distance—say of 12'', as for instance in reading—must, while converging for 12'', exercise his accommodation to the same degree

that the emmetrope would at 6''; since, to the accommodation of one-twelfth required of the latter for vision at 12'', must be added the one-twelfth which has already been exercised in neutralizing the hypermetropia.

If, in order to escape the asthenopia, or to render the requisite degree of accommodation possible, parallelism between the latter and convergence be restored by a convergent squint, *the inward movement must of necessity be confined to but one eye*; since it is essential to the exercise of useful vision that one eye, at least, should be properly directed. *The popular notion that both eyes may be crossed is, therefore, entirely erroneous*, if we except those extremely rare cases in which paralysis of both external recti muscles has resulted, through the action of the opposing muscles, in an inward rotation of each eye; under which circumstances, this condition may be said to really exist.

This, however, may occur, and very fortunate it is for the patient if it do; *the squint may alternate*, that is to say, change from one eye to the other, either eye being used, indifferently, for vision. Judging from my own experience, however, this is a disposition very rarely met with.

I have mentioned the occurrence of *diplopia* in connection with the first yieldings to the temptation to squint, as the chief cause why hypermetropia is not more frequently accompanied by convergent strabismus. This effect, due to the image of objects viewed being formed, in the squinting eye, upon an eccentric portion of the retina, proves at first exceedingly annoying, for, besides the disturbance of vision to which it gives rise, it is frequently attended by giddiness and headache, as well. And so we soon find that an effort is made upon the part of the hypermetrope to escape these discomforts, *by an active suppression of the vision of the misdirected eye*. This, which is a cerebral process, is accomplished the more readily, since the image in this eye, because formed upon an eccentric portion of the retina, is less distinctly perceived than the one which, in the properly directed eye, is cast upon the macula lutea.

Now there follows in almost every instance, a most important result from this active negation of the retinal image of the squint-

ng eye ; a result having a direct bearing upon the question of treatment : *The visual power of this eye soon becomes greatly impaired ; a high degree of ambly-opia is developed, which is usually, if the squint be allowed to remain long uncorrected, irremediable.* Thus, it too often happens that the sight of one eye, so far as useful vision is concerned, is lost, as the result of convergent strabismus. Moreover, where, either through neglect or unwise counsel, this amblyopic condition has been allowed to supervene, the success of a tenotomy, which may be resorted to finally for the purpose merely of removing the unsightliness of the deformity, is, by no means, so assured ; since we have no longer the important aid in obtaining a perfect result which is derived, where both eyes enjoy good vision, from the tendency they then exhibit to act in harmony, when once the proper direction of their axes is even approximately restored.

The lesson which these facts teach, and which it is the especial object of this paper to emphasize, is *the importance of early resorting to treatment for the correction of convergent strabismus.*

It has already been remarked, in describing the two methods in which convergent strabismus may originate,—as a result of paralysis of the external rectus muscle, and as a consequence of hypermetropia—that the treatment indicated will not be the same, in each instance. In the first form, constitutional treatment will usually be required, since the real cause of the squint is the paralysis of the external rectus muscle, supplied by the sixth nerve, and our primary efforts should be directed to the relief of this condition. In a majority of cases we will find that this, again, is dependent upon acquired syphilis ; and, under such circumstances, mercury should be our chief reliance. From the administration of iodide of potassium, I have not been able to obtain anything like as satisfactory results, possibly because I have not given it in the very large doses in which it has been recommended. A solution of the biniodide of mercury in water, made by the addition of ten grains of the iodide of potassium to each grain of the biniodide, has, in my hands, proved so efficacious, and so manageable, that I seldom have occasion to resort to any of the other preparations of mercury, whether in the

treatment of this, or of other affections of the eye or ear of syphilitic origin. The dose of the biniodide is varied, according to the susceptibility of the patient and the object to be attained, from the one-fortyeighth of a grain to the one-eighth of a grain, rarely the latter, three or four times a day. By directing it to be taken *after meals*, I have found it less liable to disturb the bowels.

Besides syphilis, which may act in any one of several ways, as by producing neuritis, meningitis, periostitis, exostosis, etc., there are various other causes which may, less often, give rise to paralysis of the sixth nerve, and consequently to convergent strabismus; and which, according to their nature, will be found more or less amenable to treatment. Among these may be mentioned, inflammation of the nerve sheath or of the nerve itself of rheumatic origin, or simply the result of reflex action due to exposure to cold, etc. inflammatory affections of the brain or its meninges; extravasations of blood about the base of the brain; intra-cranial tumors, etc. Whichever of these conditions be present, the constitutional treatment will of course be guided by general principles. Counter irritation, by means of blisters applied behind the ears or to the back of the neck, will often be found useful, and in some cases electricity or galvanism is productive of unmistakably good results.

The prognosis in paralysis of the external rectus muscle is, on the whole, favorable; and in many cases the resulting squint will eventually be relieved, without the necessity of resorting to operative treatment arising. In other instances, however, the recovery is but partial; and the weakened muscle being unable to antagonize the action of its opponent, the internal rectus, the squint does not materially improve. Again, and less frequently, the paralysis remains complete in spite of judicious treatment. Under either of these conditions, operative interference becomes necessary. When the paralyzed muscle has already partially regained its power, a careful tenotomy of the internal rectus will often, by diminishing its strength and enabling the affected muscle to contract upon itself, thereby placing it in a more favorable state for recovery, result in a complete restoration of the normal

condition. When this treatment still leaves a residual squint, Mr. Brudenell Carter has recently suggested, as a substitute for the too often unsatisfactory operation of readjustment of the paralyzed muscle, tenotomy of the internal rectus of the *opposite* eye; from which procedure he claims to have obtained very satisfactory results. We should not expect always to gain perfect harmony of movement between the eyes from this treatment, especially if the paralysis of the external rectus be complete; but I regard the method as more rational, and as calculated to give better results, than the operation of readjustment.

In paralytic squint, it should be remarked, amblyopia of the squinting eye is less apt to occur than in the hypermetropic form. The reason is obvious: The squint is usually of high degree, and is, as I have stated, quickly developed. The diplopia, therefore, proves but slightly annoying, since the images are wide apart, and the one projected by the squinting eye relatively very feeble; and, as a consequence, the usual disposition to suppress the vision of this eye does not exist.

In the treatment of strabismus occurring *as a result of hypermetropia*, we have to deal with entirely different conditions. Here, as has been explained, the squint is due to the excessive accommodation required of the hypermetrope, and is the expression of an unconscious effort upon his part to restore the normal parallelism between this function and that of convergence.

In the use of convex glasses we have, as is well known, a means of reducing to the normal standard the accommodation of the hypermetropic eye, and, since we are thus enabled to do away with the cause of the squint, it would appear that we might in this way be able to correct the deformity itself. And, indeed, when this treatment is resorted to sufficiently early, it usually proves entirely efficacious. In order, however, to be successful, the wearing of convex glasses must be begun *before the strabismus has become confirmed*—that is during the premonitory stage, previously described, when the squint is intermittent in character, occurring only during accommodation for near objects. After the deformity has become fixed, we shall find this method entirely unreliable. Under each circumstance tenotomy, to be supplemented in some cases

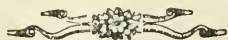
by the use of convex glasses, is the only means of relief at our command. Where the squint is slight, a tenotomy of the internal rectus of the squinting eye will usually correct it. If it exceed $2'''$ or $2\frac{1}{2}'''$ in extent, however, it will be found necessary to divide the internal rectus of each eye. Where our object is to obtain as great an effect as possible from the tenotomy, the conjunctiva should be dissected up from over the tendon, and not only the latter but the neighboring connective tissue divided. On the other hand, we may greatly lessen the effect, by being careful to sever only the tendon itself, and to disturb as little as possible the connective tissue. The subconjunctival operation of Critchett is, I think, to be preferred to any other. In performing it, I am in the habit of using a pair of slender, blunt pointed, straight, scissors, and the crochet pointed strabismus hook,* which I devised several years since.

In all modern operation for strabismus, we are instructed to divide the *tendon* of the muscle *at the point of its attachment to the sclerotic*. Formerly this rule was not observed, but, on the contrary, the muscle itself was often severed at some distance from its sclerotic attachment. As a consequence of this, the posterior segment of the muscle retracted into the connective tissue sheath by which it is surrounded; union between the two parts was prevented; and, the function of the muscle being entirely destroyed, the eye, not unfrequently, to use a popular expression, "went the other way." In other words, a *convergent* squint was transformed into a *divergent* one—a bad matter was made worse, and the operation, as then performed, deservedly fell into disrepute. From the modern operation of tenotomy no such result should ever occur.

In conclusion, I may state, in answer to the objections which have been mentioned as being commonly urged against operations for strabismus, that *the operation is attended with absolutely no risk to the sight either if the eye upon which it is performed, or its fellow*; that it is followed by little or no suffering, and does not necessitate confinement to the house; that the danger of

*For description of this instrument, see Am. Journal of Med. Sciences for April, 1877, or the last Am. edition of Soelberg Well's work on diseases of the eye.

the squint flying to the other eye is wholly chimerical; that children are rarely, if ever, born with this defect, and, if they were, this fact would not of itself constitute a valid objection to the performance of an operation for its correction; and finally, that it is a great and inexcusable mistake to suppose that the deformity may be outgrown, and, on this account, to advise the postponement of operative treatment. Indeed, regarding the very great probability of the development of amblyopia in the squinting eye, I can see no justification in postponing the tenotomy, as is often done, even in the youngest children.



REPORT OF CASES.

EPISTAXIS.

BY BOLLING W. BARTON M. D. OF BALTIMORE.

To stop bleeding from the nose, it is not always enough to blow styptic or astringent powders into the nostrils; and the injection of stronger agents while it may stop the flow of blood, is often attended with very objectionable accidents. I believe that I once endangered the life of a patient, by the injection of Monsel's solution into his nostrils. Some of the solution flowed back into the larynx and trachea, and produced most painful symptoms at the moment and was followed by a degree of œdema of these parts which proved unpleasantly serious. The injection may have been done in a bungling manner, but even with skilful hands it is easy to see that such an accident might happen. Besides this the injection of this liquid is almost certain to give rise to quite profuse salivation, and if it pass into the stomach, to vomiting which is likely to undo all that has been done to arrest the bleeding. The last resort to which we flee when the simpler methods fail, that of sound and tampon is certainly most efficient in stopping the hemorrhage, but is also a most troublesome operation if the patient should happen to be a peevish child. I have been told also that the presence of the tampons gives rise to peculiarly painful sensations.

In view of this heap of difficulties, I propose a simple method to which the foregoing objections can not be urged and which has proved on three occasions all that could be desired in checking the nose-bleed.

I used the Monsel's Iron Solution but applied it with feathers. The wing feather of a common fowl is most readily gotten. The barbed end, of course, is dipped into the solution and pushed rapidly back into the nostral, and turned one or twice in the fingers. In a few seconds the feather refuses to yield to pushing or pulling, showing that a firm clot has been formed. The projecting end is clipped so as not to inconvenience the patient, enough of it being left to be easily seized and removed when acquired. If one feather should fail to stop the blood, a second may be introduced in the same manner alongside of the first one. At the end of a certain time the clots slough away from the nasal walls, and may be removed without trouble.

This is a very simple procedure, and I doubt whether it will fail when any other method would succeed.



TRANSLATIONS.

PHYSIOLOGICAL PROPERTIES OF BROMOHYDRIC ETHER. BY A. RABUTEAU, (*Comptes rendus Acad. des Sciences*, 1876).—Bromohydric ether ($C^2 H^5 Br.$) has an agreeable odor, and produces, when absorbed by the respiratory passages, absolute anæsthesia more rapidly than chloroform. This ether has no caustic or irritating properties as compared to chloroform. Its exhibition is without danger. It is preferable to chloroform, as it is entirely eliminated by the respiration.

BUNION OR DEVIATION OF THE GREAT TOE. BY H. MONGOLD, (*These de Paris*, No. 178, 1876).—The author reports in his work 100 observations, of which 33 were of men and 67 of women; the age varying from 30 to 60 years. From the minute examination of his cases Mongold believes that anatomical explanations should be rejected, such as relaxation of the internal lateral ligament, displacement of the sesamoid bones, etc. He thinks the real cause purely constitutional and whether the deviation be unilateral or bilateral with or without bunions, it should be considered as a manifestation of arthritis. The shoe is only an occasional cause and the bunion which apparently comes from rubbing, is only produced after the head of the metatarsal bone commenced to project.

THERAPEUTIC VALUE OF ALUM IN AFFECTIONS OF THE CONJUNCTIVA. BY HUGO MAGNUS, (*Deutsche Med. Wochensch.* 11, 37, 1876).—The writer uses a large crystal of alum filed into the shape of a crayon. He applies it to the conjunctiva in the ordinary way. The reaction is very rapid, but the pain lasts but a moment. Irritable persons and children bear it very kindly, although the modifications, which this caustic induces are very durable.

TREATMENT FOR PROLAPSUS OF THE RECTUM. BY E. DELENS, (*Journ. de Therap.* No 4, 1876).—Allingham's treatment modified is made use of by this author. He cauterizes that portion of the intestinal mucous membrane which projects through the sphincter with fuming nitric acid, then the tumor is smeared with olive oil, and the mass returned to its natural place. A tampon is then introduced, which over-distends the rectum, and a bandage is applied to the perineum. The patient should be kept in bed for five or six days, and the peristaltic action of the intestines should be interrupted by morphia. Faradization of the sphincter is indicated daily for five minutes at each sitting. The canterization causes inflammation of the submucous cellular tissue and the distension admits of permanent adhesions, which, hold the bowel in situ, and prevent further prolapsus.

CONTRIBUTION TO THE HISTORY OF GASTROTOMY. BY WOLZEN-DORFF, (*Berlin klin Wochensch.* No. 31, page 455, 1876).—In the seventeenth century gastrotomy was twice performed by German physicians for foreign bodies in the stomach. The report of these operations is borrowed from the oldest work on legal medicine published in German; Vernünftiges Wundenurtheil, by John Nicholas Pfeizer, of Nüremberg, 1672. The following is the report of the first case:

At Prague, on Easter monday, Matthaeus, a Bohemian peasant 36 years old, a facetious man, was amusing himself by partially swallowing a horn-handle iron knife as a pastime. Inadvertantly, he allowed the knife to slip too far down his throat and he was unable to recover it as usual. After having retained it in his stomach for seven weeks and two days, the point of the knife worked its way externally through this organ near the cardiac orifice. This was aided by epispastics. Seeing this condition, the patient

prayed the nurses to extract the instrument by dilating the wound. The most celebrated surgeon was sent for, Florinus Mathis, of Brandenburg. This gentlemen performed the operation the first Friday after Pentecost at 7 o'clock in the morning. The patient recovered, in spite of contrary belief of the opinion of the doctors in general, and he even married. The knife extracted from the stomach had a length of nine inches and had assumed such a color, that one would have imagined, it had sojourned in fire all this long while.

J. D. F.



REPORTS OF SOCIETIES.

MEETING OF THE CLINICAL SOCIETY OF BALTIMORE.

At the last meeting of the Clinical Society, Dr. I. E. Atkinson read an interesting paper on "Unilateral Idiopathic Cutaneous Atrophy." A patient had presented himself for treatment, in September last, at the special Dispensary, complaining that his left leg was gradually becoming smaller than the other and he was afraid it would waste away to nothing. He was a driver and twenty years old. General health good but had noticed, first about eight years ago, a small white spot near the umbilicus. Then there came areas of spots, some of them mottled in appearance, running downwards on the thigh. The disease had started with the spot near the umbilicus and has gradually worked its way down. On the thigh the spots changed, somewhat resembling erythema. As the skin at different points became affected, large tortuous veins could be seen, while the number of hairs was diminished. The skin did not wrinkle but was quite smooth, there being no natural lines or folds, and was very thin. On the anterior part of the thigh the skin was normal. Measurements were taken of each leg at various points which showed a difference of from three to seven centimetres in circumference. The corium, papillary layer and rete mucosum were all diseased. This disease differs from the xeroderma of Hebra and other authors. Whether it was caused by disordered nutrition or by any change in the vaso-motor system could not be determined.

Dr. T. R. Brown showed a specimen from a child, which he spoke of at a previous meeting, viz: a case of numerous growths in the vagina of a child less than two years old. Since the first appearance

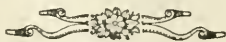
and during the numerous removals of many of these quickly returning tumors the child had become gradually weaker, and at last had died of exhaustion. The uterus and vagina were exhibited and excited much interest and comment.

Dr. Tiffany suggested "fœtal inclusion," which many pathologists were now writing about, as the cause of the disease in the present case and thought it worthy of special attention. He also related a somewhat similar case in a negress who had borne 13 children. She had suffered from a disagreeably fetid discharge from the vagina for two years. When the finger was introduced, the vagina was found to be so full of growths it felt like a bunch of grapes. Like Dr. Brown's case in one particular the neck of the uterus appeared to be entirely gone; but not like it in others since the tumors extended completely by round the wall of the vagina. A thorough examination had been made after death. Dr. T. considered it a case of carcinomatous papilloma.

Dr. Russel Murdock related a case of astigmatism followed by microphthalmus in a child two years old. The right side was greatly affected, the left slightly. Donders has said this trouble was often connected with depression of the malar bone. In this case the child had inherited both, the astigmatism coming from the mother, and the deformity from the father, who were each affected in this manner differently. Dr. Murdock did not agree with authors in speaking of astigmatism as physiological. In many cases there was perfectly normal vision in this respect.

Dr. H. Clinton McSherry opened the discussion of the evening with a casefully prepared paper on "Laryngeal Stenosis," a disease which he said was not fully treated of in text books, but was in fact worthy of much attention.

R. B. MORISON



SELECTIONS.

CONSIDERATION OF SEVERAL REMEDIES.

[From *Cincinnati Medical News*]

CARDIAC STIMULANTS.

At the very head of this class stands digitalis. In organic disease of the heart (no longer considered a rare disease of childhood), the prognosis as to compensatory relief under its use is

certainly more favorable than in the same lesions in adult life. In mitral regurgitancy the bruit is increased by digitalis, but the cough and asthmatic dyspnoea are relieved. The infusion of digitalis often affords great relief in various forms of dropsical effusions; yet it is, properly speaking, no more a diuretic than tannic acid, which, as we know, also increases the flow of urine in certain instances. A failure or paucity of the urine occurring while digitalis is being administered should be regarded as a sign of danger. I have only once noticed the blueness of the sclerotica described by some writers as a toxic symptom. I have not found it necessary to give large doses in cardiac diseases of children, but it has been necessary to continue it for a long time. I gave it in one case for a year with but a few short intervals; in three others it was given consecutively for over six months, resulting in relief of every symptom except the bruit itself. I have at no time observed any of the cumulative action of the drug, and it very rarely disagreed with the stomach. Cinnamon water appears to be a good corrigent for the nausea which digitalis may produce.

Belladonna stimulates the heart indirectly by its paralytic effect upon the inhibitory nerve centers. Irregularity of the heart's action not unfrequently has its origin in the brain rather than in the heart. Severe and prolonged mental application may thus often disturb the rythmical contraction of this organ by a stimulation of the inhibitory centers. As a stimulant to the capillary circulation, belladonna is exactly suited to a relaxed condition of the skin, as well as to the more complex diseases of the spinal cord. Children tolerate the drug beyond the age ratio followed for other medicines.

CARDIAC SEDATIVES.

The indication for this class of medicines in the inflammatory and febrile conditions of childhood is more positive than in adult practice. Such conditions are often of asthenic type, and most of the febrile conditions are of an irritative character, the heart's action is greatly accelerated, and its force is also increased at the expense of the muscular power. In these conditions the most valuable agent is aconite, and the most reliable preparation is the

tincture of the root. Its action as a local sedative also, when applied to any part of the mucous tract, is a great advantage where the stomach is irritable and medicines cannot be retained. The smallness of the dose—one-fourth of a drop being sufficient for an infant—and its tastelessness when properly diluted, are points of great importance. *Veratrum viride* cannot, I think, be compared with it in value in childhood; although it is considered to be a safer agent, the nausea and purging induced render it unfit for many cases.

SPINAL SEDATIVES—CONIUM.

As an agent affecting the circulation in the brain and spinal cord, and as a paralyzant of voluntary muscles by its effect upon the afferent spinal nerves, conium has not yet attained the high place in general practice which it deserves. Perhaps the two circumstances which have led to this are, first, that in diseases requiring the use of conium, as in spinal irritation, congestion, meningitis, etc., the medicine is seldom employed in sufficient dose; second, there is very little of the drug which is reliable. Conium should be administered as *digitalis*; *i. e.*, for its effects alone, without reference to quantity. Dr. Harley has declared that conium is to the corpora striata, the smaller nerve centers, and the entire motor tract, "what opium is to the brain." Since I have been less careful in regard to the dose, I have had better results from the use of conium. Some years ago I made extensive use of extract of conium in cerebro-spinal meningitis, and with marked benefit. The only preparation which is at all reliable is the fluid extract.

SALICYLIC ACID.

The effect of this acid in controlling acute rheumatism is truly wonderful. Much of its value no doubt depends upon the sedation exerted by it upon the circulation, as a consequence of which pain is lessened and temperature reduced. I have found the pain of migraine and other neuralgias yield very promptly to its use. As a local application to the nasal and pharyngeal mucous membrane in diphtheria and other diseases it is unexcelled. Its caustic nature demands care in its use, especially in young children, and

the following formula makes an excellent and safe mode for its administration :

R̄	Acidi salicylic	-	-	-	-	℥jss.
	Ammoniac citratis	-	-	-	-	℥ss ad ℥j.
	Syrupi cinnamoni	-	-	-	-	℥jss.
	Aquæ cinnamoni	-	-	-	-	℥ss.

M. Ft. solut. Teaspoonful every second hour for a child of five years suffering with rheumatism.

The putrescent character of the stools in children suffering with summer diarrhœas is at once changed by salicylic acid, and a corresponding improvement in the condition of the little patient noticed. Its power over living germs renders it at once invaluable when contagion is feared. Prof. Abelin, of Stockholm, says that "in children, doses large enough to bring down temperature acted as a poison," and cites a case in which twelve grains caused death. In such doses it seemed to be a corrosive poison. In smaller quantities it lowers temperature without exerting any beneficial effect upon the course of the disease.

JABORANDI.

Most of the experiments have been performed with an infusion of the drug in substance, and in this way when given in five or ten grain doses it has uniformly produced its characteristic effect. Now that we have its active or alkaloid principle (pilocarpin), it is probable that we may eliminate some of the hitherto ascribed properties as being common to the piperacea. Its action is upon the glandular system. Therefore, as a therapeutic agent, it must be limited to the restoration of the function of the skin, salivary glands, and the mammae, or to establish vicarious action by them.

Its use in acute febrile excitement or during the eruptive stages of the exanthemata is opposed to the principles of sound therapeutics, and I am not surprised that disappointment has attended its administration where the vitality of the skin is impaired, or where perspiration and transpiration are checked by reason of high temperature. By the use of stimulating diuretics, we do harm in certain diseases of the kidneys, no less than when we employ stimulating diaphoretics to restore the function of the skin which is already suppressed by over stimulation. The indi-

cation is to lessen the force of the heart and bring down the temperature. If this be done by proper means, the perspiratory glands will resume their functions without the aid of jaborandi. The same applies to the salivary glands during the stage of eruptive excitement in scarlatina, and a failure of this drug under the conditions should not weigh against its usefulness.

Pilocarpin, in one-twelfth of a grain, equals five and a half of the drug in effect. It is an oily substance like conia, but not possessed of odor. It has little effect upon the heart and upon temperature, and the sense of debility after its use in health must be no argument against its use when the system is oppressed by dropsy (ascites or anasarca), for this same sense of weakness will be turned to strength by the use of this agent. By far the most numerous cases of dropsy in childhood are post-scarlatinal, and the testimony of those who have used jaborandi is in its favor. In certain dropsical effusions it offers the best and most prompt relief. The propriety of its use in cardiac dropsy, except for temporary relief, may well be doubted. It is best in dropsy depending upon disease of kidneys, as vicarious action is the only hope of even temporary relief. In cardiac dropsy it must not be made to supplant digitalis.

Ergot produces vaso-motor spasm, and consequently increased arterial tension, through its action upon the nerve centers within the cranium. This fact, if it be conceded, gives to the drug a therapeutic importance, in treatment of diseases affecting the circulation, unequaled by any other medicine, unless it be determined that *ustilago* is more powerful. I have made extensive use of ergot based upon the above theory, and so far with the best results. The importance of ergot as a therapeutic agent in congestions of the brain and spinal cord in childhood, in catarrhal and mucous diseases, etc., renders it especially proper to include it in the medicines of childhood.

CHLORAL HYDRATE.

It must not be forgotten that the symptoms relieved by chloral hydrate and potassium bromide are dependent upon hyperæmia of the nerve centers in the brain or cord, and that sudden exhaustion is attendant upon many diseases of infants; *e. g.* cholera,

diarrhœa, etc., in which convulsions usually terminate life. Chloral and bromide would but increase the trouble, and stimulants alone are indicated. The apyretic action of chloral hydrate renders the mixture additionally valuable in high temperature when convulsions threaten.

The local use of hydrate chloral is scarcely less valuable. I now depend upon its prompt and pleasant action in diphtheria; to abort abscesses, and to prevent the formation of pus in sinuses, as a gargle in stomatitis and in scorbutic gums of childhood, it is unexcelled, as well as in the angina of eruptive fevers. Chloral hydrate and bromide of potassium are contra-indicated in chorea. The rapid anæmia in these cases is of itself sufficient reason to predict what practice confirms. In whooping-cough a combination of the bromides, as in the formula of Dr. Brown-Sequard, will, if pushed, always give satisfaction. As a general thing in such cases the doses are far too small, and the interval too long.

TREATMENT OF THRUSH (APHTHÆ), *Philadelphia Medical Times*,—Dr. E. Ory (*La France Méd.*, 1877, p. 419) has collected the following formulæ. It must be remembered in treating aphthæ that certain affections of the digestive organs—troubles of nutrition, inflammation of the buccal mucous membrane, with augmented acidity of secretion—are conditions favoring the development of the fungus which constitutes the affection. The physician, therefore, must address himself as much to the general condition as the local affection. According to Blache, when the general condition is good it suffices to touch the mucous membrane a number of times daily with the finger, or, better a pledget of lint on forceps, covered with the following:

℞ Glycerin. (pure), ʒi;
Aluminis, Div.—M.

The mouth should be frequently washed out with Vichy water, either pure or diluted with one-fourth part of milk, or, better still, with decoction of krameria.

Trousseau recommends the following gargles:

℞ Sodii borat,
Mellis rosæ, āā ʒ ss.—M.

Or, better:

℞ Potassi chlorat., \mathfrak{D} iv.
Mellis rosæ, \mathfrak{z} ss.—M.

The honey may sometimes be replaced advantageously with syrup of krameria. In rebellious cases, Trousseau practised cauterizations with nitrate of silver:

℞ Argenti nitrat., gr. xvi;
Aquæ destillat., f \mathfrak{z} ss.—M.

This solution, however, is apt to discolor the teeth and therefore may be advantageously replaced by solutions of the sulphates of zinc or copper.

Bretonneau used to use powdered calomel, mingled with mucilage, as a topical application. Sée rubs the affected spots with a bit of rag, and then bathes them with this mixture:

℞ Glycerinæ, f \mathfrak{z} x;
Amyli,
Sodii borat., āā gr. viii.—M.

West indicates an analogous formula: he does not use preparations containing honey, on account of their liability to ferment:

℞ Sodii borat., gr. xxx;
Glycerinæ, f \mathfrak{z} i;
Aquæ, ad f \mathfrak{z} i.—M.

He applies this very carefully on a clean linen rag, after having had the mouth thoroughly washed out with warm water. In the rebellious forms, he cauterizes with nitrate of silver solution, of the strength of about one grain to the ounce.

Parrot uses the following.

℞ Glycerinæ,
Mellis rosæ, āā \mathfrak{z} ss;
Potassii chlorat., \mathfrak{z} iss.—M.

Müller suggests:

℞ Acid. salicylic., gr. xvi;
Glycerinæ, \mathfrak{z} vi;
Aquæ. ad f \mathfrak{z} ii.—M.

ABSTRACTS AND EXTRACTS.

THE GERM DOCTRINE AND SEPTICÆMIA.—Dr. M. A. E. Wilkinson, President of the British Medical Association, in his address, spoke of the germ doctrine and its applications. He said :—

We will inquire how it stands with this doctrine in regard to traumatic septicæmia and pyæmia. You are all aware that foul ill-conditioned wounds are attended with severe, often fatal, symptoms, consisting essentially of fever of a remittent type, tending to run on to the formation of embolic inflammations and secondary abscesses.

The notion that septicæmia is produced by bacteria, and the *rational* of the antiseptic treatment which is based thereupon, is founded on the following series of considerations :—

1. It is known that decomposing animal substances, blood, muscle, and pus, develop, at an early stage of the process, a virulent poison, which, when injected into the body of an animal, produces symptoms similar to those of clinical septicæmia. This poison is evidently not itself an organism ; it is soluble, or at least diffusible, in water, and it is capable, by appropriate means, of being separated from the decomposing liquid and its contained organism. When thus isolated, it behaves like any other chemical poison ; its effects are proportionate to the dose, and it has not the least power of self-multiplication in the body. To this substance Dr. Burdon Sanderson has given the appropriate name of pyrogen. It is the only known substance which produces a simple uncomplicated paroxysm of fever, beginning with a rigor, followed by a rise of temperature, and ending (if the dose be not too large) in defervescence and recovery.

2. We know further, from the evidence I have laid before you, that decomposition cannot take place without bacteria, and that bacteria are never produced spontaneously, but originate invariably from germs derived from the surrounding media. We are warranted by analogy in regarding pyrogen as the product of a special fermentation taking place in decomposing albuminoid mixtures, but we cannot name the particular organism, nor the particular albuminoid compound which are mutually engaged in the process.

3. In the third place, we know that when a wound becomes unhealthy, as surgeons term it, the discharge becomes offensive, in other

words, decomposed, and when examined under the microscope they are found to swarm with organism resembling those found in all decomposing fluids. Meanwhile the patient becomes feverish, and suffers from the train of symptoms which we call septicæmia.

It is a natural inference that what takes place in decomposing blood or muscle in the laboratory, takes place also in the serous discharges and dead tissues of the wound. These become infected from the surrounding air, or from the water used in the dressings, with septic organisms; on that follows decomposition and the production of the septic poison, or pyrogen; the poison is absorbed into the blood, and septicæmia ensues.

It was the distinguished merit of Lister to perceive that these considerations pointed to a means of preventing septicæmia. He argued that, if you could prevent the access of septic organisms to the wound, or destroy them there, you would prevent decomposition, prevent the production of the septic poison, and thus obviate the danger of septicæmia.

THE USE OF THE TREPHINE IN DEPRESSED FRACTURES OF THE SKULL (*The British Medical Journal*, July 21, 1877).—Dr. Robert S. Hudson, after alluding to the change in surgical opinion which has occurred since the time of Pott, and to the brilliant results which that surgeon obtained by the use of the trephine, proceeds to question the propriety of that change, and asks that the surgical practice of the mining districts around Cornwall be given its due weight in the consideration of the question. For many years the operation of trephining for depressed fracture of the skull has been of weekly, almost daily, occurrence, and, according to Dr. Hudson, a very large percentage of the cases recover. If death ensue, there are generally obvious causes to account for it, such as diffused injury with laceration of brain-substance, and fractured base; success usually depends on an early operation, as soon as possible after the accident. He sums up his remarks as follows:

“1. Surgeons practising in the mining districts around Redruth and Camborne have had, especially in former times, unusual opportunities for the study of head-injuries,

“2. In compound fractures of the cranium, it has been the invariable practice of the most experienced to elevate depressed bone by means of the trephine or Hey’s saw, without waiting for symptoms of compression or irritation.

"3. It is believed by those surgeons that no danger whatever attaches to the operation *per se*; pyæmic risks are unknown; and recovery is the rule after trephining operations.

"4. So firm is popular belief in the efficacy of the trephine, that a surgeon who hesitated to employ it, under the plea of waiting for symptoms, would assuredly suffer in reputation, if, in the event of death he were not put on his trial for manslaughter.

"5. Hospital statistics place herniotomy among the most dangerous operations; but the statistics of hospital surgeons in their private practice show to a demonstration that an operation for the reduction of strangulated hernia is practically harmless, even when it is necessary to open the peritoneal sac, and that the risk is directly proportionate to the length of the ignorant delay which has been allowed to exist previous to the operation. (Holmes's System of Surgery, vol. iv. page 692.) Although the parallel is not in every respect a complete one, we employ the trephine at the earliest possible period, and aim at preventing mischief by removing all sources of irritation.

"6. No matter how deeply prejudiced against the trephine our young surgeons may be when fresh from the schools, a few years' experience generally dispels the illusion; they become converts to the practice of the districts, and cease to look on its employment as antiquated surgery."

In *Guy's Hospital Reports* for 1877, Mr. Davies-Colley contributes two interesting cases in which the trephine was successfully employed, and adds, "These two cases support the rule which most of our text-books either miss or fail to impress, that in punctured fracture of the skull it is the surgeon's duty to trephine at once, without waiting for symptoms of compression or irritation."—*Med. Times*.

ACTION OF THE SULPHATE OF QUININE ON THE FŒTUS AND THE NEW-BORN CHILD.—In a paper published in the *Annales de Gynecologie* M. Burdel maintains that when a pregnant woman, no matter what be the term of the pregnancy, is attacked with intermittent fever, she is liable to abort seven times out of ten, unless she is treated with quinine. It is very generally believed that this drug will itself cause abortion, but M. Burdel reports several cases which demonstrate that enormous doses of it can be taken without injury, to the embryo, and without shortening the course of pregnancy. He denies that malarial fever can be transmitted to the fœtus in utero, or to the nursing infant

through the milk of the nurse. He has never known infants to suffer from fever or other malarial symptoms before the fourth month. He has, on the contrary, frequently observed young infants fed entirely on the mother's milk to remain fresh and rosy, although the mothers themselves were devoured by fever and reduced to a state of profound anæmia. This immunity, however, does not persist after the process of dentition begins.

M. Burdel has devoted an important portion of his paper to the study of the action on the new-born child of the milk of a woman who is taking sulphate of quinine. Nothing is more variable and inconstant than the transmission of medicines, and of quinine in particular, by means of lactation. He has known children to be fatally poisoned by the milk of women who had been brought under the influence of this drug. He has deduced from his observations a certain number of facts, on which rules for the administration of quinine may be based. Thus he found that the drug was absorbed more rapidly, and was contained in larger quantities in the milk when it was given on an empty stomach; on the contrary, when administered with the food, it appeared in the milk less rapidly and in smaller quantities, and was consequently less toxic. As the infants advance in age they become less susceptible to the influence of the quinine in the milk, and after they attain the age of five or six months cases of poisoning rarely occur. When it becomes necessary to administer quinine soon after delivery, its injurious effects on the child may be prevented by giving it with the meals or with some food, and by emptying the mother's breast artificially three hours after its administration. When these precautions are observed, M. Burdel claims that the infant may be allowed without fear to nurse the mother during the entire time that she is taking the quinine.—*Journ. de Med. et de Chir.*, October, 1877.



EDITORIAL

DIPHTHERIA—This disease still prevails, to an alarming extent, in some parts of North Carolina, notably about New Berne, as we learn from the state papers, as also in Maryland and Delaware.

We would be glad if one or more of the physicians, in the localities in which it has appeared, would send us reports of the disease and the treatment pursued.

And, just here, we copy from *The Proceedings of the Medical Society*

of *Kings*, a portion of an article on "Diphtheria and Alcohol" read before that Society by Dr. E. N. Chapman, of Brooklyn. He considers alcohol an antidote, or unfailing abortive, in this disease and says :

"All local treatment is worse than useless. It exhausts the nerve-force and induces greater injection of the blood-vessels, thus favoring the exudation."

"Alcohol neutralizes the diphtheritic poison, sets free the nerves of animal life, subdues the fever and inflammation, destroys the pabulum that sustains the membrane, cuts short the disease, conquers its sequelæ, and shields other members of the family from an attack. Upon the subsidence of the fever, as is usually the case in from twenty-four to thirty-six hours, a purulent secretion begins to loosen the membrane, and soon, thereafter, to detach it in flaky, ragged fragments. This process may take place, and recovery be possible, even when the larynx and trachea are implicated. The membrane is seldom renewed, when this secretion is maintained by a steady use of the remedy. Alcohol is as antagonistic to diphtheria as belladonna to opium, or quinia to malaria. Like any other antidote, it must be given promptly at the outset, as otherwise its potency will be lessened, perhaps lost altogether."

"Alcohol does not act as a stimulant, nor induce any of its ordinary effects. Enough may be given to cause profound intoxication in health, and yet there exist no signs of excitement nor odor in the breath. Hence at a late stage of the disease it is of little avail."

"Should the administration of alcohol anticipate grave symptoms by thirty six hours, recovery is assured ; should the epiglottis be implicated, a croupy cough present, or the blood much contaminated, recovery is possible ; but should the larynx be involved so as to impede the aëration of the blood, recovery is improbable, though, even then, the secretion of pus may detach, disintegrate and supplant the membrane."

"All cases of croup, on the failure of the usual remedies to subdue the harsh, rasping cough, should have alcohol added to the treatment ; all cases of scarlatina, on the appearance of a membranous patch in the fauces, should be considered as diphtheria ; all diseases associated with diphtheria, inasmuch as its presence casts a baleful shadow over every other morbid condition, should be disregarded, or at least, receive secondary attention only ; all the sequelæ of diphtheria—paralysis, albuminuria, hemorrhage, anæmia, etc., etc.—should, whatever else might be demanded, be subjected to this all-potent remedy."

"Quinia is an efficient ally to alcohol. It energizes the ganglionic nervous system—a member of the vital forces not less important than the vascular—and thus enables the organism to right itself and resume its functions."

"Iron plays an unimportant part at first ; but later, when the diphtheritic poison has been neutralized, it restores color to the blood, imparts force to the nerves, and awakens active nutrition—matters of no light moment in most cases. At an early day, even food and other means to support nature are of slender advantage ; but when alcohol and quinine have tempered the violence of the symptoms, they are imperatively demanded."

"The power of alcohol and quinine to prevent blood-degeneration and nerve-exhaustion, depends on fresh air, bodily rest, mental quietude, and disuse of lowering medicines. So, also, the power of iron and food to restore the fluids and solids to their normal standard, is only operative by observing the same general caution as to impure air, active exertion, and heroic treatment of individual conditions."

"Alcohol and quinine have no greater power to cure than to prevent diphtheria, provided they are given promptly and continuously. With thorough ventilation they are all that is needed to purify a room or a house, unless there exist some extraneous source of infection, demanding special attention."

"PREVENTIVE MEASURES."

"During the prevalence of diphtheria in a family, those exposed directly or indirectly to infection should be protected by having a free circulation of air through the house, and by taking a certain amount of alcohol each day, until the patient has recovered. My usual prescription is here given: Quinoidine, Cinchonizæ sulph., of each, 25 grains ; Acid. sulph. aromat, 2 drachms ; Sp. frumenti, 8 ounces. Dose, fifteen drops to a tablespoonful, four or five times a day, according to the age of the subject. To all young children and to many adults, I am in the habit of directing brandy or whisky alone, in the above proportions. For the patient, quinia is substituted for the quinoidine, and the interval between the doses shortened to one or two hours. Six drachms an hour is the maximum quantity for an adult."

MEDICAL SOCIETIES.—The different medical societies in this city have been organized and have entered upon their Winter meetings with more promise of usefulness and success than for some years past.

The attendance of members has been good, and the interest manifested, by the presentation of pathological specimens, reading of papers and free discussions of medical questions, indicates a degree of activity which should be encouraged. Nothing is so conducive to the good of the profession as free interchange of views and opinions among its members, and there can be no better method of securing such a result than by the encouragement and attendance upon local medical organizations. Independent of the benefits which result from free debate and liberal interchange of views between medical men, there is often an outgrowth of social feeling, which develops a higher ethical standard between rival professional men than can be secured in any other manner. In this day of charlatanry, the profession should foster every organization which can give it strength. It is our purpose to encourage, in every manner, every medical society which seeks to promote the good of the profession. The proceedings of such societies, when forwarded to us, will be published when their prominence justifies us in so doing. There is one point we feel justified in urging: The membership of the different medical societies in this city is large, but it by no means takes in the majority of the profession here. There are a good many eminent physicians in this city who are not identified with a single organization, and yet who are capable of contributing largely to the usefulness of such societies were they to become active members. We urge these gentlemen to come out and lend their experience and wise counsel to such organizations. Every physician who is not, should at once identify himself with those of his professional brethren who have banded themselves together for the purpose of collecting and disseminating useful scientific knowledge.

A CASE is reported from France in which a result, similar to the famous St. Martin case, so familiar to all readers, has been obtained by a surgical operation. A man swallowed some mineral acid the caustic action of which closed the esophagus. Gastrotomy was successfully performed. A tube was introduced through which the patient was fed and experiments on digestion and on the properties of the gastric juice were made. Nothing new has been learned further than was demonstrated by Dr. Beaumont in his experiments on St. Martin. This case will, however, afford physiologists a chance for further research.

THE PRESBYTERIAN EYE AND EAR HOSPITAL.—Baltimore is so

sadly, deficient in charity Hospital accommodations for the sick, that we hail with delight any increase of free bed Hospitals for our working classes. From the above heading it will be seen that members of the Presbyterian Church, in the city of Baltimore, have established a Hospital for the treatment of Eye and Ear diseases, a charity which Presbyterians offer to the suffering poor in our midst, regardless of age, sex, color, nationality or creed. It is a charity in the widest sense under Presbyterian management. The very large dwelling No. 77 E. Baltimore street, has been selected on account of its central position and easy access by city cars, and in this building an OUT-DOOR and an IN-DOOR Department, the usual Hospital organization, has been established. The medical department will be under the management of Prof. J. J. Chisolm, M. D., of the University of Maryland, through whose efforts the charity has been developed. The establishment of this Free Hospital will be a great blessing to the poor, who for successful operations for the restoration of sight need isolation from the atmospheric contamination of a general hospital. We heartily wish Prof. Chisolm God speed in his good work.

DR. LANE, of San Francisco, Cal., performed splenotomy recently with a fatal result. The adhesions were so extensive as greatly to embarrass the operation. Transfusion was resorted to, when the hemorrhage called for it, with temporary success, the bleeding, however, continued after the wound was closed and the transfusion tube becoming choked, the patient sank before the defect could be remedied. The cases are rare in which attempted extirpation of the spleen is admissible or even justifiable considering the few favorable results.

THE U. S. MARINE HOSPITAL SERVICE.—During the fiscal year 1876-7, the collection of Hospital dues from seamen amounted to \$372,467.70, and the total expenditures of the service for the same period amounted to \$368,395.28, leaving an excess of receipts over expenditures of \$4,070.42. The number of sick and disabled seamen furnished relief was 15,122, and the average cost per patient \$24.04, which amount includes medicines, medical attendance, subsistence and nursing, together with salary of officers, fuel, light and repairs to Hospitals and all incidental expenses. This is a reduction of \$14.37 per patient since 1870, before the reorganization of the service. In other words, the service is now self sustaining, while for twenty successive years

previous to its reorganization by its present Chief, Surgeon General John M. Woodworth, an average annual appropriation of nearly \$200,000 by Congress was found necessary to sustain it, exclusive of cost of fuel, light, Hospital repairs, etc., which were then paid out of other appropriations.

THE HOSPITAL GAZETTE AND ARCHIVES OF CLINICAL SURGERY, edited by Edward J. Bermingham, M. D., and Frederick A. Lyons, M. D., of New York, have made their first appearance as a consolidated journal, and will hereafter appear semi-monthly under the above title. The journal is devoted largely to Hospital reports, clinical lectures and original papers, from representative men in the profession. An able corps of collaborators and reporters will assist the editors in maintaining it as a representative journal of the country.

We congratulate the editors upon the attractive appearance of their new journal and bespeak for them great success.

MEDICAL STUDENTS.—We understand in the neighborhood of three hundred medical students have matriculated at the two medical schools in this city and that this is the largest class which has assembled for five years past.

As a large majority of the medical students who come to Baltimore are from the South, this increase is to be explained by the more prosperous condition of affairs in that section of country.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.—Twenty-fourth annual meeting, held at Salem, N. C., May 22, 1877. Salem: Printed by L. V. & E. T. Blum.

The transactions of this meeting of the Society, not unlike former ones, is very interesting. The meeting was largely attended by many of the most prominent physicians in the State, and the transactions were of a character to entertain as well as instruct.

Many valuable contributions, in the shape of papers and reports of interesting cases, were made by various members of the Society.

Dr. Eugene Grissom, Superintendent of the State Insane Asylum, read a carefully prepared and highly instructive paper on Epilepsy, which is well worth an attentive perusal.

Dr. Geo. A. Foote, the retiring President, delivered an address on the subject of "Hypodermic Medication," in which he treats the sub-

ject in a manner evidencing patient research and laborious application. That he has assiduously studied and painstakingly tested the use of medicine subcutaneously no one who reads his paper can doubt. In his address he relies mainly on his own experience, in the hypodermic use of medicines, which has been satisfactory in the highest degree. From his experience he inclines to the belief that morphia should seldom be used alone, but in conjunction with atropia, in proportions to suit each case, with a view to prevent the nauseating effects of the opiate. He cites numerous cases in which various medicines have been used hypodermically with great success—particularly, morphia and atropia after amputations; opium, atropia and aconite in rheumatism; chloroform in sciatica; quinia in fevers; strychnia in paralysis and nervous disorders, and in overcoming the depression following the use of morphia; ammonia in bites of venomous reptiles and the virus of rabies and ergot in post partum hemorrhage and in lingering cases of labor.

We regret that space will not admit of our analysing this and the many other valuable papers, read before the Society, as they deserve. It is greatly to be regretted that Dr. J. F. Shaffner's admirable address on the "History of Medicine and Surgery" was not published, in full, in the transactions of the Society. This, and several other very interesting papers and reports, read and delivered before the Society, are lacking to make the transactions complete.

We would advise those who have not seen a copy of the transactions of the North Carolina Medical Society, for 1877, to get one as it will well repay perusal. The secretary's address is: Dr. L. Julien Picot, Murfreesboro', N. C.



BRIEFS.

DEATH UNDER THE ADMINISTRATION OF NITROUS OXIDE AND ETHER.—A death has recently taken place at University College Hospital during anæsthesia from nitrous oxide gas and ether. The patient was a woman fifty-five years of age, who was admitted to the Hospital in consequence of strangulated femoral hernia. She was taken into the operating-theatre, and gas and ether administered by means of Clover's apparatus. In about four minutes she was well under the influence of the anæsthetic, without having exhibited any

previous excitement. Taxis was then applied, when almost immediately the patient became pale and commenced vomiting stercoraceous matter. At the same time the respirations became weak, and the pulse at the wrist imperceptible. The doors and windows of the theatre were at once thrown open, and artificial respiration was carried on for a few minutes. As no obvious benefit resulted an enema, containing three ounces of brandy, was administered. Fumes of strong ammonia were applied to the nostrils, and ammonia injected into the right median basilic vein, but all without any good result, and the patient died within about ten minutes from the onset of the alarming symptoms. At the autopsy, stercoraceous matter was found in the trachea and right bronchus. The right side of the heart and the large veins were full of dark fluid blood. The ventricular walls were thin and flabby, and the cavities slightly dilated. The left ventricle was empty. The arch of the aorta presented numerous patches of atheroma.—*Brit. Med. Journal*.

DEATH FROM ETHER-INHALATION.—An inquest was held last week at Manchester on the body of a lad who died in the hospital of the City Workhouse while under the influence of ether, which had been administered previous to performing an operation on the hand. According to the evidence of Mr. James Hardie, M. D., Surgeon to the Workhouse, the deceased had been operated on twice before, when chloroform had been administered; but as on the last occasion alarming symptoms presented themselves, it was now thought safer to give ether. A small quantity of ether was applied to the nostrils, and it seemed to take effect easier and quicker than usual. A few minutes after, and just as the operation was about to be commenced, the patient seemed to faint, and the breathing to be arrested. The galvanic battery was applied over the course of the phrenic nerves, but it only produced two or three gasps; and this as well as other means of restoring consciousness was unsuccessful, the patient dying whilst on the operating-table.—*Medical Times & Gazette*.

DEATH DURING ETHERIZATION.—Dr. Benjamin W. Robinson, of Fayetteville, N. C., reports ("Va. Med. Monthly") the case of Mrs. McNeil, who consulted him on account of a tumor of the breast, which he extirpated while the patient was under the influence of ether. The

tumor returned, and the operation was repeated in ten months. Again, after the lapse of six months, a third operation was performed, and Squibb's ether was administered in a conical inhaler. During the inhalation the pulse improved in volume and force. In about twenty minutes after the operation was begun, it was announced that, with gradually increasing pallor, the radial and temporal pulse, which had been failing since the operation begun, were extinct, and that the respiration was irregular. Brandy was administered subcutaneously, the foot of the operating table raised, and artificial respiration practised. The lapse of a few minutes promised thorough resuscitation, the patient became conscious, the horizontal posture was restored, and the operation was continued without the inhalation of any more ether. In a few minutes the patient vomited, after which it was found that she was sinking. All efforts at resuscitation now proved unavailing.

DEATH DURING ANÆSTHESIA FROM ETHER.—Anæsthesia was induced in a female, aged twenty one, who was to undergo amputation of the leg at Westminster Hospital, London. Chloroform to the extent of two drachms was given on lint, and the patient quietly and quickly became insensible; then ether, poured upon a sponge placed in a felt cone, was substituted for the chloroform. The amount of ether used was two ounces, and the patient was moribund in about two minutes after the ether was begun. The chloroform was given by itself for about three or four minutes, and ether by itself for two or three minutes.—*Brit. Med. Jour.*

MARKS OF THE TRUE PHYSICIAN.—The true physician is quiet and unpretending, yet firm, prompt and attentive. He is kind and courteous in deportment, especially in the sick-room. He is jealous and careful of his reputation but does not seek to establish it by unprofessional or unfair means, and is guarded and respectful toward the opinions and character of professional brethren. He is temperate, and should be a Christian man—ready, after exhausting his skill and resources for the relief of physical suffering, to administer a balm of hope and comfort to the despairing spirit. He should be an observing man—studious, watchful, and progressive, and should read, contribute to, and *pay for* at least one medical journal.—*Southern Medical Record.*

RESEARCHES OF LAST YEAR.—Forty-five scientific expeditions were fitted out during the year 1876. Of these, twenty-four had their field in Europe, seven in Africa, five in America, and two in Oceanica. The objects of the researches included archæology, natural history, anthropology, medicine, statistics, comparative legislation, comparative history of religions, philosophy, geography, geodesy, and astronomy. In addition, organized researches were also made among archives and in libraries.

SCLEROTIC acid, the active principle of ergot, isolated by Dragendorff, appears in the American prices current at \$25. per ounce. It is administered hypodermically in doses of one-sixteenth to one-twelfth of a grain.

AMYL-NITRITE IN WHOOPING COUGH.—1 to 3 minims repeated every 2, 3, or 4 hours, according to the age of the child and the urgency of the symptoms. No antagonism exists between this remedy and quinine.

THE VIRGINIA STATE MEDICAL SOCIETY met in Petersburg on the 23rd of October. Dr. John Herbert Claiborne was elected President for the ensuing year. The next meeting will be held in Richmond.

DR. PAUL F. EVE, the distinguished Southern Surgeon, died in Nashville, suddenly, on Nov. 3rd.

DR. PHELPHS CHAMBERLAIN, an aged and highly respected member of the profession, died in San Francisco, Cal., on the 19th. of Oct



BOOKS AND PAMPHLETS.

WHAT ANÆSTHETIC SHALL WE USE? By Julian J. Chisolm M. D.,
Professor of Ear and Eye diseases University of Maryland, and
Surgeon in charge of the Baltimore Ear and Eye Institute. For
sale by Kelley & Piet.

The above pamphlet is a reprint from a paper published in the October number of the *Richmond and Louisville Medical Journal* in which the author has carefully reviewed the history of the different anæsthetics, which have been, and still are in use for the purpose of showing how far, and under what circumstances, it is safe to use anæsthetics, and then to express boldly his confidence in chloroform in preference to ether in every instance in which the administration of an anæsthetic is admissible.

This is one of the strongest papers on this subject we have yet seen. The author has in support of his own personal experience, which has been more extensive, perhaps than that of any practitioner in this city, drawn largely from the experience of eminent American and European surgeons. He argues ably that when intelligently administered chloroform is as free from danger as ether and as an anæsthetic is far preferable. We must confess that, after a Hospital Residence of three years in which daily administrations of the two anæsthetics have been employed, by the different Hospital surgeons, we are prepared to accept and endorse the views entertained by Prof. Chisolm. In the many hundred cases in which we have seen chloroform administered we have yet to see the first alarming effect, and we believe, with Prof. Chisolm, that when bad results do occur it is from faulty administration and not from the anæsthetic.

The object of Prof. Chisolm's paper is not to furnish a full statistical account of the number of deaths from ether or chloroform, but rather to show that if a dozen surgeons in various parts of the world can be found who have given chloroform several thousand times, and without a single fatal case, that others can do the same and that when trouble follows in the practice of one surgeon he should look to himself rather than to the article which he uses for his discomfiture. We can recommend this paper to the profession as discussing a question of great practical interest and as well worthy of careful consideration.

APPLIANCES.

THE SPERMATIC TRUSS.

This is a late invention "for the cure of Spermatorrhœa or Seminal Weakness, and to sustrain and subdue inordinate sexual desire, and to prevent the chordee attendant, frequently, upon Gonorrhœa."

We have one of these Trusses, but have not yet had an opportunity of testing it but from the numerous testimonials it has received from prominent physicians, who have tried it, we are led to believe that it meets a need long felt.

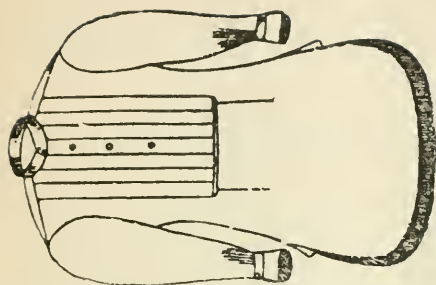
A writer speaking of it says :

"The Spermatic Truss possesses of itself no curative properties, more than does a hernia truss, but it acts by taking advantage of the physiological actions of the genital organs, *in short, while worn, it prevents erection of the penis.* The penis being secured in an entirely recumbent position, it is impossible for an erection to occur, and the increased sexual desire, and seminal loss, consequent thereto, are avoided."

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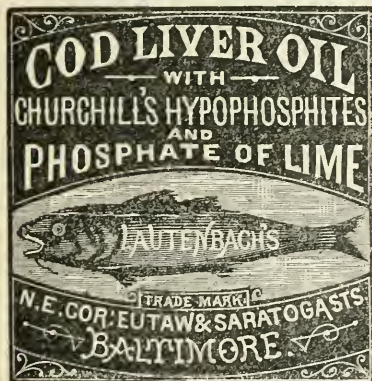
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 87 Mulberry Street.

With permission I refer to the following for further testimony:

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 Dr. JUDSON GILMAN, 172 Saratoga St.
 Dr. E. M. REID, 245 N. Fremont Street.

Dr. J. H. HOUCK, 75 E. Baltimore Street.
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IMPROVED TROMMER'S EXTRACT OF MALT "WITH PEPSIN" in *dyspeptic disorders*, and specially adapted to cases characterised by *irritability of the stomach, or by nausea.* It is also employed with great advantage in the *wasting diseases of children* both as a nutritive and to improve digestion and assimilation.

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No article of the *Materia Medica* approaches EXTRACT OF MALT "with PEPSIN" as a bland and nutritive substance, *containing all the elements which are required to nourish the body, as well as those (Pepsin, Diastase and Hydrochloric Acid) concerned in the digestion of the food proper.* Prof. W. H. Thomson, in his lectures, has well said that starvation is the second great complication of typhoid fever. After the first violence of the disease has passed and nourishment of the patient becomes all-important, this preparation may be given in teaspoonful doses repeated every two or three hours, with the effect of improving the appetite, increasing the strength, and relieving the gastric and intestinal catarrh, and the accompanying diarrhœa and tympanites.

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Acid Hydrochloric,	-	-	-	2½ minims

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Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years in any climate, without fermenting or moulding, and that its flavor actually improves by age. Our Extract is guaranteed to equal, in every respect, the best German make, while, by avoiding the expenses of Importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The Extract is prepared by an *improved process*, which prevents injury to its properties or flavor by excess of heat. **It represents the soluble constituents of Malt and Hops, viz: MALT SUGAR, DEXTRINE, DIASTASE, RESIN, and BITTER OF HOPS, PHOSPHATES OF LIME and MAGNESIA, and ALKALINE SALTS.**

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO:—I enclose herewith my analysis of your Extract of Malt:

Malt Sugar 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter (Diastase), 2.469; Ash-Phosphates, 1.712; Alkalies, .377; Water, 25.7. Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœa, as given by Hager, that has been so generally received by the profession,, I find it to substantially agree with that article.

Yours truly,

SILAS H. DOUGLAS,
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" " " " Cod Liver Oil and Iodide of Iron,	-	-	-	-	-	-	-	1 00
" " " " Cod Liver Oil and Phosphorus,	-	-	-	-	-	-	-	1 00
" " " " Hypophosphites,	-	-	-	-	-	-	-	1 50
" " " " Iodides,	-	-	-	-	-	-	-	1 50
" " " " Alteratives,	-	-	-	-	-	-	-	1 50
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2d, It has the great advantage of being *nearly tasteless*. The bitter is very slight, and not unpleasant to the most sensitive, delicate woman or child.

3d, It is *less costly*: the price will fluctuate with the rise and fall of barks, but will always be much less than the Sulphate of Quinine.

4th, It meets indications not met by that Salt.


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<p>"UNIVERSITY OF PENNSYLVANIA, Jan 22, 1875. "I have tested CINCHO-QUININE, and have found it to contain <i>quinine, quinine, cinchonine, cinchonidine</i>. F. A. GENTH, <i>Professor of Chemistry and Mineralogy.</i>"</p>	<p>amination for <i>quinine, quinine, and cinchonine</i>, and hereby certify that I found these alkaloids in CINCHO-QUININE. C. GILBERT WHEELER, <i>Professor of Chemistry.</i>"</p>
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<p>"WELLFLEET, MASS., Nov. 17, 1876. "I have used CINCHO-QUININE, and can say without any hesitation it has proved superior to the sulphate of quinine. J. G. JOHNSON, M.D."</p> <p>"MARTINSBURG, MO., Aug. 15, 1876. "I use the CINCHO-QUININE altogether among children, preferring it to the sulphate. DR. E. R. DOUGLASS."</p> <p>"LIVERPOOL, PENN., June 1, 1876. "I have used CINCHO-QUININE, obtaining better results than from the sulphate in those cases in which quinine is indicated. DR. I. C. BARLOTT."</p> <p>"RENFROW'S STATION, TENN., July 4, 1876. "I am well pleased with the CINCHO-QUININE, and think it is a better preparation than the sulphate. W. H. HALBERT."</p> <p>"ST. LOUIS, MO., April, 1875. "I regard it as one of the most valuable additions ever made to our materia medica. GEORGE C. PITZER, M.D."</p>	<p>"RICHMOND, VA., March 28, 1877. "I believe that the <i>combination</i> of the several cinchona alkaloids is more generally useful in practice than the sulphate of quinine uncombined. "Yours truly, LANDON E. EDWARDS, M.D. <i>Member Va. State Board of Health, and Sec'y and Treas. Medical Society of Va.</i>"</p> <p>"CENTREVILLE, MICH. "I have used several ounces of the CINCHO-QUININE, and have not found it to fail in a single instance. I have used no sulphate of quinine in my practice since I commenced the use of the CINCHO-QUININE, as I prefer it. F. C. BATEMAN, M.D."</p> <p>"NORTH-EASTERN FREE MEDICAL DISPENSARY, 908 East Cumberland St., Philadelphia, Penn., Feb. 29, 1876. "In typhoid and typhus fevers I always prescribe the CINCHO-QUININE in conjunction with other appropriate medicines, the result being as favorable as with former cases where the sulphate had been used. "F. A. GAMAGE, M.D."</p>
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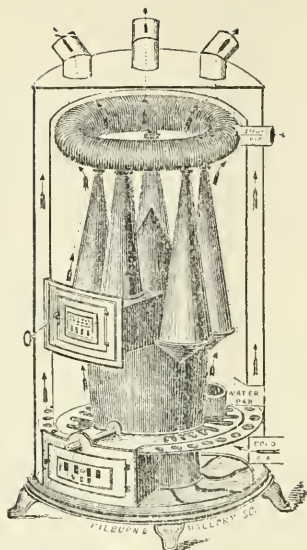
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Matriculation Fee.....	5 00
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Graduation Fee.....	30 00

FEES FOR THE SPRING SESSION.

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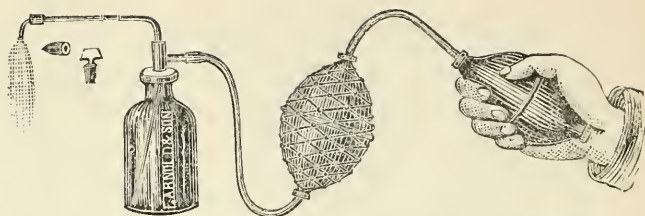
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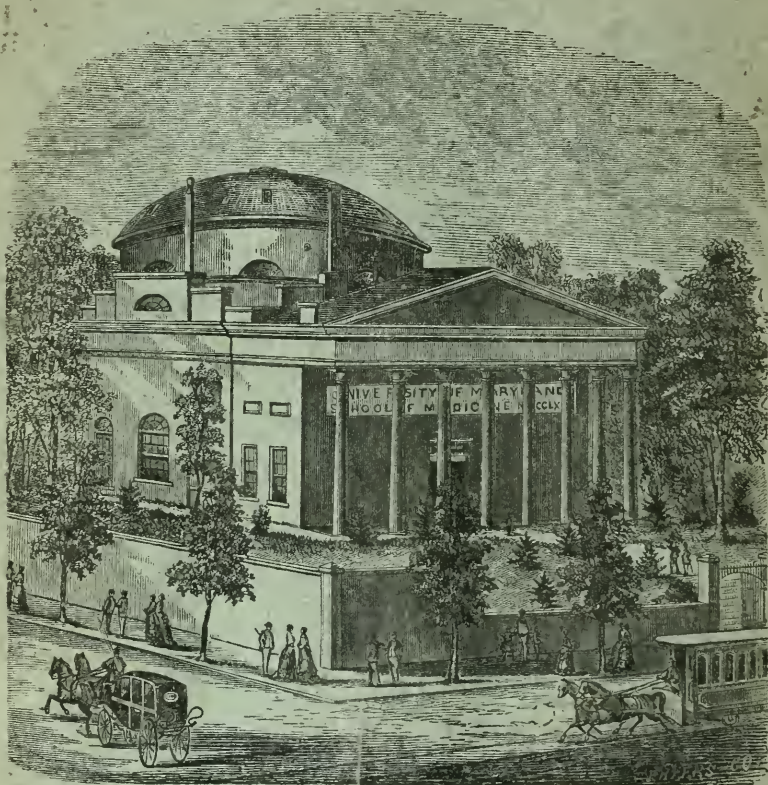
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